MS-9600LSC

Intelligent Addressable FACP with Optional Second Loop

FIRE·LITE ALARMS by Honeywell

Addressable Control Panels

General

Fire•Lite's MS-9600LSC is a compact, cost effective, intelligent addressable FACP (Fire Alarm Control Panel) with an extensive list of powerful features. The combination of Fire•Lite's newer series devices and legacy 300 Series devices, along with the MS-9600LSC FACP, offer the latest in fire protection technology. LiteSpeed™ is a patented technology that polls 10 devices at a time looking for new or different information. When new information is found at a specific address, the system polls that device several times for any new data. This improvement allows a fully loaded panel with up to 636 devices to report an incident and activate the notification circuits in under 10 seconds. With this new polling scheme, devices can be wired on standard twisted, unshielded wire up to a distance of 10,000 feet per loop. Each Data Communications Link (DCL) Circuit loop supports up to 159 addressable detectors including photoelectric, photoelectric with heat, beam, ionization, photoelectric duct, fixed heat, fixed heat with rate-of-rise, and fixed high-heat detectors. It also supports up to 159 addressable modules including monitor (two-wire detector, normally open devices), dual-monitor functions (two monitor circuits from one module, two addresses used), multi-monitor (multiple monitor circuits from one module, multiple addresses used), control (for Notification Appliance Circuits), and relay (two Form-C) modules.

The FLPS-7 power supply is a separate board while all other electronics are contained on a single main circuit board. Both boards are mounted to a quick-removable chassis and housed in a metal cabinet. The backbox can be installed allowing field wiring to be pulled. When construction is completed, the chassis with the electronics can be quickly installed with two bolts.

Optional modules, which plug into the main circuit board, are available for special functions. Available accessories include reverse polarity/city box transmitter, digital alarm communicator/transmitter, DCL circuit expansion, local upload/download software and remote NAC power expansion.

FM APPROVED to UL ANSI 864.

ULC LISTED to S527-99, S559-01.

Controls And Indicators

LED INDICATORS

- AC POWER (green)
- FIRE ALARM (red)
- SUPERVRY (yellow)
- ALARM SILENCED (yellow)
- SYSTEM TROUBLE (yellow)
- MAINTENANCE/PRESIGNAL (yellow)
- DISABLED (yellow)
- BATTERY FAULT (yellow)
- GROUND FAULT (yellow)

MEMBRANE SWITCH CONTROLS

- ACKNOWLEDGE/STEP
- ALARM SILENCE
- DRILL
- SYSTEM RESET (lamp test)
- 12-key pad with full alphabet
- 4 cursor keys
- ENTER

Special Features

- Easy mount chassis.
- 7 amp switching power supply.
- Large enclosure allows 18 amp-hour batteries
- Four Class B or two Class A NAC circuits.
- Selectable strobe synchronization per NAC for System Sensor, and Wheelock devices.
- Certified for seismic applications when used with the appropriate seismic mounting kit
- Seamless integration between fire and mass notification with the ECC-50/100 Emergency Command Center via ANN-BUS connections.
- ANN-BUS for connection to following modules
  Note: cannot be used if ACS annunciators are used.
  - ANN-80C Remote LCD Indicator
  - ANN-RLY Relay Module (optional)
  - ANN-LED Annunciator Module (minimum of 1 required)

Standard Features

DCL CIRCUIT LOOP

- DCL circuit can be configured for DCLA, DCLB, DLCLC operation.
- DCL circuit supports up to 318 addressable devices per loop (159 detectors and 159 monitor, control, or relay modules).
- DCL circuit loop maximum length 3048 m @ 12 AWG (3.1 mm²) using twisted, unshielded wire (see Wire Table on page 5).

NOTIFICATION APPLIANCE CIRCUITS (NACS):

- Four onboard NACs with additional NAC capability using output control modules (CMF-300A or CMF-300-6A) or NAC expansion power supply (FCPS series). The four onboard Class B NACs can be converted to two Class A NACs with the NACKEY (included).
- Silence Inhibit and Auto Silence timer options.
- Onboard NACs may be configured for single-stage or two-stage operation (e.g. 20 ppm ALERT, Temporal EVAC).
- Selectable strobe synchronization per NAC.
- 3.0 amps special application, 300mA regulated maximum per each NAC circuit
  Note: *Maximum 24 VDC system power output is shared among all NAC circuits and 24 VDC special application auxiliary power outputs. Total available output is 7.0 amps.*

ADVANCED FIRE TECHNOLOGY:

- Sensitivity testing with printable results, onsite or offsite.
- Automatic drift compensation.

PROGRAMMING AND SOFTWARE:

- Autoprogramming (learn mode) reduces installation time.
- Fully programmable from local keypad, local PS/2 keyboard or PC (using the standard PS-TOOLS Windows® utility).
- Two-level user-programmable passwords.
- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Three Form-C relay outputs (two programmable).
- 99 software zones.

USER INTERFACE:

- Optional plug-in DACT-UD2 communicator with USB port for local upload/download.
- EIA-232 printer/PC interface (variable baud rate) on main circuit board.
- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings adjustments.
- History file with 1,000-event capacity.
- EIA-485/ANN-BUS supporting up to 2 ANN Series Annunciators or 32 ACS Series annunciators.
- EIA-485 supporting up to 32 ACS annunciators.
- Maintenance alert warns when smoke detector dust accumulation is excessive.
- Automatic device type-code verification.
- One person audible or silent walk test with walk-test log and printout.
- Point trouble identification.
- Local piezo sounder.
- Waterflow (nonsilenceable) selection per monitor point.
- System alarm verification selection per detector point.
- PAS (Positive Alarm Sequence) and presignal delay per point.
- Optional 4XTMF module (conventional reverse polarity/city box transmitter).

Field-programming Features

Off-line Programming: Create the entire program in your office using a Windows®-based software package (download PS-Tools from www.firelite.com). Upload/download system programming locally to the MS-9600LS in less than one minute.

Autoprogramming: Command the MS-9600LSC to program itself (takes less than 30 seconds). In the Auto-Program mode, the MS-9600LSC scans for all possible devices at all addresses, stores the device types, and addresses found, and then loads default values for all options (General Alarm). It also checks for two or more devices set to the same address.

Online Editing: While still providing fire protection, the MS-9600LSC may be programmed from the front panel. Simple menu trees displayed on the LCD allow the trained user to perform all functions without referring back to the programming manual.

English Label Library: Quickly select labels from a standard library of more than 50 adjectives/nouns, such as "FLR 3 HALLWAY," or enter custom labels letter-by-letter. Use recall function to repeat previously used label.

Program Check: Automatically catch common errors, such as control modules not linked to any zone or input point.

Maintenance Alert

The MS-9600LSC continuously monitors each smoke detector and is capable of reporting maintenance conditions. This reduces the risk of false alarms due to dust accumulation. Refer to the control panel installation manual for more information.

Automatic Test Operation

The MS-9600LSC performs an automatic test of each detector every two hours. Failure to meet the test limits causes an AUTO TEST FAIL trouble type. System Reset clears this trouble.

Terminal Blocks

AC Power – TB1: 120 VAC, 60 Hz, 3.0 amps. Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation.

Battery (lead acid only) – TB2: Maximum charging circuit: Normal flat charge 27.6 VDC @ 1.0 amp. Maximum battery charger capacity: 26 AH. Minimum battery 12 AH. MS-9600LSC cabinet holds maximum of two 18 AH batteries. For 26 – 120 AH batteries, use the CHG-120F or CHG-75 Battery Charger and BB-55F Battery Box.

NOTE: *Jumper JP3, on the FACP main circuit board, must be cut to disable the FACP battery charger when using the CHG-120F or CHG-75.*

Communication Loop – (standard) TB8: 24 VDC nominal, 27.6 VDC maximum. Maximum length: 3048 m total twisted, unshielded pair length. Maximum loop current: 400 mA (short circuit) or 100 mA (normal). Maximum loop resistance: 40 ohms. Supervised and power-limited.

Notification Appliance Circuits – TB4: Power-limited circuitry. Nominal operating voltage: 24 VDC. Current limit: fuseless, electronic, power-limited circuitry. Maximum signaling current per circuit: 3.0 amps special application, 300mA regulated. End-of-Line Resistor: 4.7K ohm, 1/2 watt for NACs. Refer to *Fire•Lite Device Compatibility Document* for listed compatible devices.

Programmable and Trouble Output Relays – TB5: Contact rating: 2.0 amps @ 30 VDC (resistive), 0.5 amps @ 30 VAC (resistive). Form-C relays.

Four-Wire Resettable Smoke Detector Power (24 VDC nominal) – TB3, Terminals 1(+) & 2(–): Maximum ripple voltage: 10 mVRMS. Up to 1.5 amps for powering four-wire smoke detectors. Power-limited circuit. Refer to the *Fire•Lite Device Compatibility Document* for listed compatible devices.

Nonresettable Power #1 (24 VDC Nominal) –TB3, Terminals 3 (+) & 4 (–): Maximum ripple voltage: 10 mVRMS. Up to 1.5 amps total DC current available from each output. Power-limited circuit. TB3, Terminals 5 (+) & 6 (–): non-resettable power #2.

Nonresettable Special Application Power #2 (24 VDC Nominal) - TB3, Terminals 5 (+) & 6 (-): Maximum ripple voltage: 10mVRMS. Total DC current available from each output is up to 1.5 amps. Power-limited circuit, nonsupervised.

EIA-485 (ACS/ANN) – TB6: Annunciator connector, programmable for type ANN or ACS. Terminal 1 (+) and Terminal 2 (–).

EIA-485 (TERM) – TB7: Terminal mode annunciator connector, Terminal 1 (Out +), 2 (In +), 3 (Out –), 4 (In –).

EIA-232 – TB8: PC/printer connector, Terminal 1 (Transmit), 2 (Receive), 3 (DTR), 4 (Ground).

Ordering Options

MS-9600LSC: 318-point addressable Fire Alarm Control Panel, one DCL circuit loop. Includes 80-character LCD display, single printed circuit board, and cabinet.

DACT-UD2: Optional communicator for remote monitoring.

4XTMF: Optional Transmitter Module provides a supervised output for local energy municipal box transmitter, alarm and trouble reverse polarity. It includes a disable switch and disable trouble.

ACM-8RF: Optional plug-in relay module provides 8 Form-C 5.0 amp relays.

PS-Tools: Programming software for Windows®-based PC computer (cable not included). Available for download at www.firelite.com.

SLC-2LS: Optional expander module, enables second DCL circuit loop.

DP-9296: Optional dress panel for MS-9600LSC.

TR-CE: Optional Trim Ring for semi-flush mounting.

BB-55F: Battery box, required to house two 25 AH batteries and one CHG-120F battery charger. For batteries greater than 25 AH, consult factory for housing/mounting arrangements.

BB-26: Battery backbox, holds up to two 25 AH batteries.

CHG-120F: Remote battery charging system for lead-acid batteries with a rating of 25 to 120 AH. CHG-120F or CHG-75 required for charging greater than 25 AH batteries.

CHG-75: Battery charger for lead-acid batteries with a rating of 25 to 75 AH. CHG-120F or CHG-75 required for charging greater than 25 AH batteries.

BAT Series: Batteries, see data sheet DF-52397.

PRT/PK-CABLE: Cable printer/personal computer interface cable.

PRN Series: ULC-listed compatible event printer which uses tractor-fed paper.

SEISKIT-COMMENC: Seismic kit for the MS-9600LSC backbox. Includes battery bracket for two 7, 12, or 18 AH batteries.

Compatible Addressable Devices

All feature a polling LED and rotary switches for addressing.

CP355A: Addressable low-profile ionization smoke detector.

SD355A/SD365A: Addressable low-profile photoelectric smoke detector.

SD355TA/SD365TA: Addressable low-profile photoelectric smoke detector with thermal sensor.

H355A/H365A: Fast-response, low-profile heat detector.

H355RA/H365RA: Fast-response, low-profile heat detector with rate-of-rise option.

H355HTA/H365HTA: Fast-response, low-profile heat detector that activates at 88°C.

AD355A/AD365A: Low-profile, intelligent, “Adapt” multi-sensor detector; B350LP base included.

BEAM355A: Intelligent beam smoke detector.

BEAM355SA: Intelligent beam smoke detector with integral sensitivity test.

OSI-RI-FL: Addressable long range projected beam smoke detector designed to provide open area protection

D350PLA: Photoelectric low-flow duct smoke detector.

D350RPLA: Photoelectric low-flow duct smoke detector with relay option.

MMF-300A: Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Mounts in standard (10.16 cm.) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) IDC.

MDF-300A: Dual Monitor Module. Same as MMF-300A except it provides two Style B (Class B) only IDCs.

MMF-301A: Miniature version of MMF-300A. Excludes LED and Style D option. Connects with wire pigtails. May mount in device backbox.

MMF-302A: Similar to MMF-300A, but may monitor up to 20 conventional two-wire detectors. Requires resettable 24 VDC power. Consult factory for compatible smoke detectors.

CMF-300A: Addressable Control Module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4.0" (10.16 cm.) electrical box. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

CRF-300A: Addressable relay module containing two lated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4.0" (10.16 cm.) box, surface mount using the SMB500-C.

BG-12LX: Addressable manual pull station with interface module mounted inside.

I300A: This module lates the DCL circuit loop from short circuit conditions (required for Style 6 or 7 operation).

ISO-6A: Six-fault lator Module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F.

SMB500-C: Surface-mount box used to mount all modules except the MMF-301A and M301A.

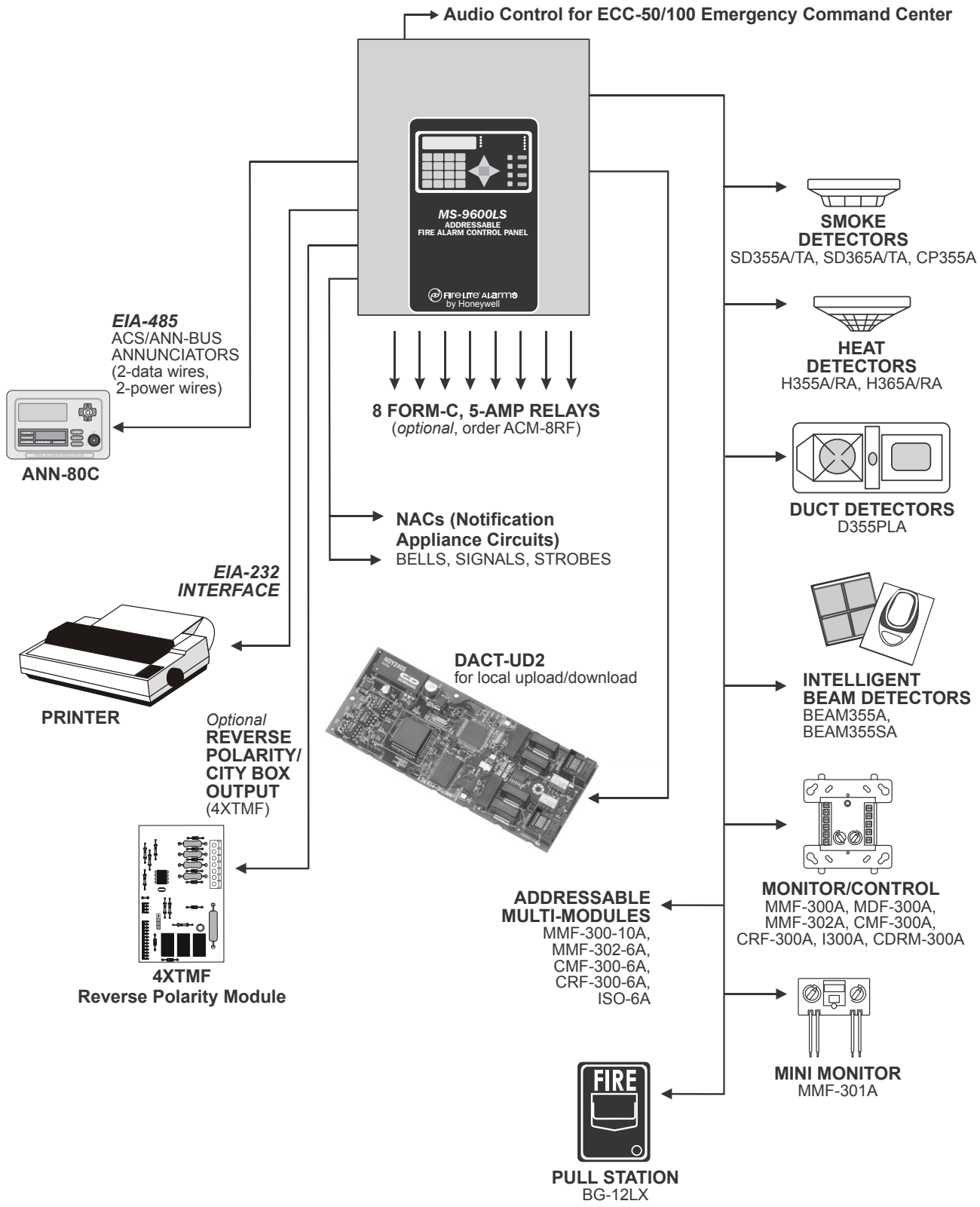
MMF-300-10A: Ten-input monitor module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F.

MMF-302-6A: Six-zone interface module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F.

CMF-300-6A: Six-circuit supervised control module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F.

CRF-300-6A: Six Form-C relay control module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F.

NOTE: *Legacy 300-series detection devices such as the AD355, CP300/CP350, SD300(T)/SD350(T) and older modules such as the M300, M301, M302, C304, and BG-10LX are not compatible with LiteSpeed polling. If the DCL contains one of these devices, polling must be set for standard CLIP protocol. Please consult factory for further information on previous 300-series devices.*


Audio Control for ECC-50/100 Emergency Command Center
MS-9600LS
ADDRESSABLE
FIRE ALARM CONTROL PANEL
Fire-Lite Alarms
by Honeywell
EIA-485
ACS/ANN-BUS
ANNUNCIATORS
(2-data wires,
2-power wires)
ANN-80C
8 FORM-C, 5-AMP RELAYS
(optional, order ACM-8RF)
NACs (Notification
Appliance Circuits)
BELLS, SIGNALS, STROBES
EIA-232
INTERFACE
PRINTER
DACT-UD2
for local upload/download
Optional
REVERSE
POLARITY/
CITY BOX
OUTPUT
(4XTMF)
4XTMF
Reverse Polarity Module
ADDRESSABLE
MULTI-MODULES
MMF-300-10A,
MMF-302-6A,
CMF-300-6A,
CRF-300-6A,
ISO-6A
FIRE
PULL STATION
BG-12LX
SMOKE
DETECTORS
SD355A/TA, SD365A/TA, CP355A
HEAT
DETECTORS
H355A/RA, H365A/RA
DUCT DETECTORS
D355PLA
INTELLIGENT
BEAM DETECTORS
BEAM355A,
BEAM355SA
MONITOR/CONTROL
MMF-300A, MDF-300A,
MMF-302A, CMF-300A,
CRF-300A, I300A, CDRM-300A
MINI MONITOR
MMF-301A

Compatible Annunciators

ANN-80C: Remote LCD Indicator that mimics the information displayed on the FACP's LCD display. Recommended wire type is unshielded.

ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble and Supervry. Ships with red enclosure *(see DF-60241)*.

ANN-RLY: Relay Module, which can be mounted inside the cabinet, provides 10 programmable Form-C relays *(see DF-52431)*.

ACS Series Annunciators: Annunciator Control Modules and Annunciator Expander Modules. **ACM-16AT** (16sw & 16 red LEDs); **AEM-16AT** (16sw & 16 red LEDs). **ACM-16ATY** (16 supv LEDs for Canadian Supv Display); **AEM-16ATY** (16 supv LEDs for Canadian Supv Display). **ACM-32AF** (32 red LEDs); **AEM-32AF** (32 red LEDs).

ACS-LED Zone Series: LED-type fire annunciators capable of providing up to 99 software zones of annunciation. Available in increments of 16 or 32 points to meet a variety of applications.

ACS-LDM Graphic Series: Lamp Driver Module series for use with custom graphic annunciators.

LCD-80FC Annunciator: 80-character, backlit LCD-type fire annunciators capable of displaying English-language text. Up to 32 LCD-80F annunciators may be connected to the EIA-485 terminal mode serial interface on the MS-9600LS(E) motherboard.

NOTE: *For more information on* ***Compatible Annunciators*** *for use with this system, see the following data sheets (document numbers) ACM-8RF (DF-51555), ACS/ACM Series (DF-52378), LDM Series (DF-51384), LCD-80F (DF-52185).*

Wiring Requirements

While shielded wire is not required, it is recommended that all DCL circuit wiring be twisted-pair to minimize the effects of electrical interference. Wire size should be no smaller than 18 AWG (0.78 mm²) and no larger than 12 AWG (3.1 mm²). The wire size depends on the length of the DCL circuit. Refer to the manual for specific wiring requirements for DCL circuit loops and notification appliance circuits (NACs).

SYSTEM SPECIFICATIONS

System Capacity

- Intelligent DCL Circuit ..... 1 expandable to 2
- Intelligent detectors ..... 159 per loop
- Addressable monitor/control modules ..... 159 per loop
- Programmable software zones 99
- ANN-BUS devices 2
- ACS Annunciators 32
- LCD Annunciators 32

Electrical Specifications

- **Primary input power:** 120 VAC, 50/60 Hz, 3.0 A.
- **Battery:** 27.6 VDC @ 1.0 A (max).
  Maximum battery charger capacity: 26 AH.
  Minimum battery: 12 AH.
  MS-9600LSC cabinet holds maximum of two 18 AH batteries.
- **Communication Loop:** 24 VDC nominal, supervised and power-limited.
- **Notification Appliance Circuits:** Terminal block provides connections for four Style Y (Class B) or two Style Z (Class A) NACs. Maximum signaling current per circuit: 3.0 amps special application, 300mA regulated
  End-of-Line Resistor: 4.7 K ohms, ½ watt for Style Y (Class B) NAC.
  Supervised and power-limited.
  Refer to panel documentation and *Fire-Lite Device Compatibility Document* for listed compatible devices.
- **Two Programmable Form-C Relays and One Fixed Trouble Form-C Relay:** Contact rating: 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive).
- **Four-wire Resettable Special Application Power (24 VDC nominal):** Up to 1.5 A for powering four-wire smoke detectors. Power-Limited, nonsupervised.
  Refer to *Fire-Lite Device Compatibility Document* for listed compatible devices.
- **Nonresettable Special Application Power #1** (24VDC nominal)
  TB3, Terminals 3 (+) & 4 (-):
  Maximum ripple voltage: 10 mV_{RMS}
  Total DC current available from each output is up to 1.5 A.
  Power-limited, nonsupervised.
- **Nonresettable Special Application Power #2** (24VDC nominal)
  TB3, Terminals 5 (+) & 6 (-):
  Maximum ripple voltage: 10 mV_{RMS}
  Total DC current available from each output is up to 1.5 A.
  Power-limited, nonsupervised.

NOTE: *Although each Special Application power output can deliver 1.5 A individually, the total power output from these circuits cannot exceed 1.5 A in standby. The total Alarm output for all Special Application power and NAC circuits cannot exceed 7 A.*

Cabinet Specifications

Door: 48.92 cm. high x 42.73 cm. wide x 1.70 cm. deep. **Backbox:** 48.26 cm. high x 42.29 cm. wide x 13.23 cm. deep. **Trim Ring (TR-CE):** 55.88 cm. high x 49.91 cm. wide.

Shipping Specifications

Dimensions: 50.80 cm high, 57.15 cm wide, 21.59 cm deep. **Weight:** 12.38 kg.

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C.

Agency Listings and Approvals

The listings and approvals below apply to the MS-9600LSC control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **ULC listed: File DAYRC S624**
- **FM APPROVED: to UL ANSI 864**
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com

Country of Origin: USA